



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,246	06/09/2006	Tor Bruun	2005_1437A	8839
513 7590 02/23/2010 WENDEROTH, LIND & PONACK, L.L.P. 1030 15th Street, N.W., Suite 400 East Washington, DC 20005-1503				
EXAMINER				
LEO, LEONARD R				
ART UNIT		PAPER NUMBER		
3744				
NOTIFICATION DATE		DELIVERY MODE		
02/23/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com

coa@wenderoth.com

Office Action Summary

Application No.

10/552,246

Applicant(s)

BRUUN ET AL.

Examiner

Leonard R. Leo

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-46 is/are pending in the application.
- 4a) Of the above claim(s) 23-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 10/05

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of the invention of Group II in the reply filed on October 9, 2009 is acknowledged. The traversal is on the ground(s) that there was no lack of unity in the International Preliminary Report and the reasons for distinctness are incorrect. This is not found persuasive because the National Stage examination is not bound by the opinions of the International Search Authority. The Examiner agrees the reasons for distinctness are incorrect and supplies the following reasoning.

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the product as claimed can be used in a materially different process of using that product such as distributing or collecting a single fluid in a heat exchanger. In this instance, the inventions do not positively recite common subject matter that would preclude a lack of unity.

The requirement is still deemed proper and is therefore made FINAL.

Claims 23-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 28-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 28 recites the limitation “the channel openings” in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 29 recites the limitation “said tunnel wall” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 30-46, there is an inconsistency between the language in the preamble and the body of the claim, thereby making the scope of the claim unclear. Applicant is required to clarify whether the claim is intended to be drawn to the subcombination or the combination, and amend the claim to be consistent with the intent. In this respect, claims 28-29 recite a manifold head (i.e. a subcombination), whereas dependent claims 30-46 recite a manifold head incorporated with another structure (i.e. combination).

Claim 32 recites the limitation “said holes” in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: a hole plate to provide the chessboard flow pattern.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 28-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurihara.

Figure 5(b) discloses a manifold head comprising three parallel dividing plates (i.e. plate 3 and plates in tubes 1b) with spacers 1' (i.e. in tubes 1a and 1b) forming slots and end cover plates (i.e. plate 2 and lower plate in tube 1c), each having an aligned opening 11 forming a tunnel.

The recitation of “for distribution of two fluids ... said channels have joint walls” in claim 28, lines 1-3 is considered to be a statement of intended use, even if claimed, does not merit patentable weight unless the body of the claim refers back to, is defined by, or otherwise draws life and breadth from such intended use. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Claims 28-30, 37-38, 40, 43-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Lowenstein et al. Figure 7 discloses a manifold head 92 comprising three parallel dividing plates 96 (Figure 9A) with integral spacers forming gaps and slots 42 and end cover plates 18, each having aligned openings 34, 36 forming tunnels.

The recitation of “for distribution of two fluids ... said channels have joint walls” in claim 28, lines 1-3 is considered to be a statement of intended use, even if claimed, does not merit patentable weight unless the body of the claim refers back to, is defined by, or otherwise draws life and breadth from such intended use. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding claim 30, plates 16 form a monolithic structure with multi-channels 54 (Figure 4).

Regarding claims 37-38, the manifold head 92 is directly sealed to the plates 16 of the monolithic structure.

Regarding claim 40, the monolithic structure is read as having a row of coupled units.

Regarding claim 43, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). The recitation of a reactor does not set forth any structural distinction.

Regarding claim 44, the device of Lowenstein et al exchanges heat between two fluids.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowenstein et al.

Lowenstein et al discloses all the claimed limitations except a catalytic coating.

The Examiner takes Official Notice of a catalytic coating for their use in the reactor art and would be within the level of ordinary skill in the art.

Regarding claim 42, the specific structure to couple the units of Lowenstein et al is considered to be an obvious design choice, producing no new and/or unexpected results.

Claims 31-32, 34-36, 39 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowenstein et al in view of Veltkamp.

The device of Lowenstein et al lacks a hole plate.

Veltkamp discloses a unit comprising a manifold head 9 and monolithic structure 1 and a hole plate for the purpose of providing a chessboard flow pattern to improve heat transfer.

Since Lowenstein et al and Veltkamp are both from the same field of endeavor and/or analogous art, the purpose disclosed by Veltkamp would have been recognized in the pertinent art of Lowenstein et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Lowenstein et al a hole plate for the purpose of providing a chessboard flow pattern to improve heat transfer as recognized by Veltkamp.

Regarding claim 35, Figure 2 of Veltkamp discloses obliquely oriented channel walls. The specific angle is considered to be an obvious design choice, producing no new and/or unexpected results.

Regarding claim 45, the monolithic structure of Lowenstein et al is read as having a row of coupled stacks.

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowenstein et al in view of Kallrot.

The device of Lowenstein et al lacks a sealing ring for connecting two units.

Kallrot discloses a heat exchanger comprising a pair of units 1, 2 coupled via a sealing ring 15 for the purpose of providing a fluid tight connection to couple the units.

Since Lowenstein et al and Kallrot are both from the same field of endeavor and/or analogous art, the purpose disclosed by Kallrot would have been recognized in the pertinent art of Lowenstein et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Lowenstein et al a sealing ring for the purpose of providing a fluid tight connection to couple the units as recognized by Kallrot.

Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowenstein et al in view of Veltkamp as applied to claims 31-32, 34-36, 39 and 45 above, and further in view of Kallrot, as applied to claim 41 above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ Leonard R. Leo /
PRIMARY EXAMINER
ART UNIT 3744

February 22, 2010